

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
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Laboratory Job ID: 240-126086-1
Client Project/Site: Ford LTP On Site

For:
ARCADIS U.S., Inc.
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Attn: Kristoffer Hinskey



Authorized for release by:
2/17/2020 4:54:50 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Job ID: 240-126086-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On Site

Report Number: 240-126086-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 2/11/2020 8:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126086-1) and MW-209S_020820 (240-126086-2) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/13/2020 and 02/14/2020.

The MS/MSD for batch 240-422674 was not analyzed due to an instrument malfunction: MW-209S_020820 (240-126086-2).

The MS/MSD for batch 240-422858 was analyzed outside of the tune time, due to an instrument fault. This is a batch QC sample; therefore, the data have been reported: (240-126087-B-3 MS) and (240-126087-E-3 MSD)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Sample MW-209S_020820 (240-126086-2) was analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The sample was analyzed on 02/12/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126086-1	TRIP BLANK	Water	02/08/20 00:00	02/11/20 08:40	
240-126086-2	MW-209S_020820	Water	02/08/20 11:55	02/11/20 08:40	

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- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126086-1

No Detections.

Client Sample ID: MW-209S_020820

Lab Sample ID: 240-126086-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.17	J	1.0	0.16	ug/L	1			8260B	Total/NA
Vinyl chloride	0.29	J	1.0	0.20	ug/L	1			8260B	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126086-1

Date Collected: 02/08/20 00:00

Matrix: Water

Date Received: 02/11/20 08:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/14/20 15:09	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/14/20 15:09	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/14/20 15:09	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/14/20 15:09	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/14/20 15:09	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/14/20 15:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 130		02/14/20 15:09	1
4-Bromofluorobenzene (Surr)	105		47 - 134		02/14/20 15:09	1
Toluene-d8 (Surr)	94		69 - 122		02/14/20 15:09	1
Dibromofluoromethane (Surr)	86		78 - 129		02/14/20 15:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Client Sample ID: MW-209S_020820

Lab Sample ID: 240-126086-2

Date Collected: 02/08/20 11:55

Matrix: Water

Date Received: 02/11/20 08:40

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/12/20 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 133		02/12/20 15:52	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/13/20 18:36	1
cis-1,2-Dichloroethene	0.17	J	1.0	0.16	ug/L			02/13/20 18:36	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/13/20 18:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/13/20 18:36	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/13/20 18:36	1
Vinyl chloride	0.29	J	1.0	0.20	ug/L			02/13/20 18:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		02/13/20 18:36	1
4-Bromofluorobenzene (Surr)	62		47 - 134		02/13/20 18:36	1
Toluene-d8 (Surr)	77		69 - 122		02/13/20 18:36	1
Dibromofluoromethane (Surr)	87		78 - 129		02/13/20 18:36	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-126086-1	TRIP BLANK	91	105	94	86
240-126086-2	MW-209S_020820	93	62	77	87
240-126087-B-3 MS	Matrix Spike	92	104	93	91
240-126087-E-3 MSD	Matrix Spike Duplicate	89	103	91	89
LCS 240-422674/4	Lab Control Sample	88	80	85	93
LCS 240-422858/4	Lab Control Sample	88	103	93	90
MB 240-422674/7	Method Blank	91	68	79	87
MB 240-422858/7	Method Blank	86	104	93	89

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(70-133)
240-125920-I-2 MS	Matrix Spike	101
240-125920-I-2 MSD	Matrix Spike Duplicate	102
240-126086-2	MW-209S_020820	98
LCS 240-422563/4	Lab Control Sample	97
MB 240-422563/5	Method Blank	96

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-422674/7
Matrix: Water
Analysis Batch: 422674

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/13/20 11:42	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/13/20 11:42	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/13/20 11:42	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/13/20 11:42	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/13/20 11:42	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/13/20 11:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 130		02/13/20 11:42	1
4-Bromofluorobenzene (Surr)	68		47 - 134		02/13/20 11:42	1
Toluene-d8 (Surr)	79		69 - 122		02/13/20 11:42	1
Dibromofluoromethane (Surr)	87		78 - 129		02/13/20 11:42	1

Lab Sample ID: LCS 240-422674/4
Matrix: Water
Analysis Batch: 422674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	11.2		ug/L		112	73 - 129
cis-1,2-Dichloroethene	10.0	11.1		ug/L		111	75 - 124
Tetrachloroethene	10.0	10.9		ug/L		109	70 - 125
trans-1,2-Dichloroethene	10.0	11.0		ug/L		110	74 - 130
Trichloroethene	10.0	11.3		ug/L		113	71 - 121
Vinyl chloride	10.0	7.68		ug/L		77	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		75 - 130
4-Bromofluorobenzene (Surr)	80		47 - 134
Toluene-d8 (Surr)	85		69 - 122
Dibromofluoromethane (Surr)	93		78 - 129

Lab Sample ID: MB 240-422858/7
Matrix: Water
Analysis Batch: 422858

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/14/20 14:20	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/14/20 14:20	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/14/20 14:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/14/20 14:20	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/14/20 14:20	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/14/20 14:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		75 - 130		02/14/20 14:20	1
4-Bromofluorobenzene (Surr)	104		47 - 134		02/14/20 14:20	1
Toluene-d8 (Surr)	93		69 - 122		02/14/20 14:20	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-422858/7
Matrix: Water
Analysis Batch: 422858

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	89		78 - 129		02/14/20 14:20	1

Lab Sample ID: LCS 240-422858/4
Matrix: Water
Analysis Batch: 422858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
1,1-Dichloroethene	10.0	10.0		ug/L		100	73 - 129	
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	75 - 124	
Tetrachloroethene	10.0	9.83		ug/L		98	70 - 125	
trans-1,2-Dichloroethene	10.0	10.1		ug/L		101	74 - 130	
Trichloroethene	10.0	9.56		ug/L		96	71 - 121	
Vinyl chloride	10.0	11.6		ug/L		116	61 - 134	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	88		75 - 130
4-Bromofluorobenzene (Surr)	103		47 - 134
Toluene-d8 (Surr)	93		69 - 122
Dibromofluoromethane (Surr)	90		78 - 129

Lab Sample ID: 240-126087-B-3 MS
Matrix: Water
Analysis Batch: 422858

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
1,1-Dichloroethene	1.0	U	10.0	9.80		ug/L		98	64 - 132	
cis-1,2-Dichloroethene	1.0	U	10.0	9.59		ug/L		96	68 - 121	
Tetrachloroethene	1.0	U	10.0	7.84		ug/L		78	52 - 129	
trans-1,2-Dichloroethene	1.0	U	10.0	9.67		ug/L		97	69 - 126	
Trichloroethene	1.0	U	10.0	8.75		ug/L		87	56 - 124	
Vinyl chloride	1.0	U	10.0	11.9		ug/L		119	49 - 136	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	92		75 - 130
4-Bromofluorobenzene (Surr)	104		47 - 134
Toluene-d8 (Surr)	93		69 - 122
Dibromofluoromethane (Surr)	91		78 - 129

Lab Sample ID: 240-126087-E-3 MSD
Matrix: Water
Analysis Batch: 422858

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD Limit	
											RPD	Limit
1,1-Dichloroethene	1.0	U	10.0	9.10		ug/L		91	64 - 132	7	35	
cis-1,2-Dichloroethene	1.0	U	10.0	9.07		ug/L		91	68 - 121	6	35	
Tetrachloroethene	1.0	U	10.0	8.34		ug/L		83	52 - 129	6	35	
trans-1,2-Dichloroethene	1.0	U	10.0	9.24		ug/L		92	69 - 126	5	35	
Trichloroethene	1.0	U	10.0	7.96		ug/L		80	56 - 124	9	35	

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-126087-E-3 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 422858

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	1.0	U	10.0	11.6		ug/L		116	49 - 136	2	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	89		75 - 130								
4-Bromofluorobenzene (Surr)	103		47 - 134								
Toluene-d8 (Surr)	91		69 - 122								
Dibromofluoromethane (Surr)	89		78 - 129								

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-422563/5

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 422563

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/12/20 14:10	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 133					02/12/20 14:10	1

Lab Sample ID: LCS 240-422563/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 422563

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.83		ug/L		98	80 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	97		70 - 133				

Lab Sample ID: 240-125920-I-2 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 422563

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	9.37		ug/L		94	46 - 170
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	101		70 - 133						

Lab Sample ID: 240-125920-I-2 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 422563

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	10.5		ug/L		105	46 - 170	12	26

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125920-I-2 MSD
Matrix: Water
Analysis Batch: 422563

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	102		70 - 133

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

GC/MS VOA

Analysis Batch: 422563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126086-2	MW-209S_020820	Total/NA	Water	8260B SIM	
MB 240-422563/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-422563/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-125920-I-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-125920-I-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 422674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126086-2	MW-209S_020820	Total/NA	Water	8260B	
MB 240-422674/7	Method Blank	Total/NA	Water	8260B	
LCS 240-422674/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 422858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126086-1	TRIP BLANK	Total/NA	Water	8260B	
MB 240-422858/7	Method Blank	Total/NA	Water	8260B	
LCS 240-422858/4	Lab Control Sample	Total/NA	Water	8260B	
240-126087-B-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-126087-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126086-1

Date Collected: 02/08/20 00:00

Matrix: Water

Date Received: 02/11/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422858	02/14/20 15:09	LRW	TAL CAN

Client Sample ID: MW-209S_020820

Lab Sample ID: 240-126086-2

Date Collected: 02/08/20 11:55

Matrix: Water

Date Received: 02/11/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422674	02/13/20 18:36	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	422563	02/12/20 15:52	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126086-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20 *
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20 *
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.




TestAmerica Michigan
 10448 Citation Drive
 Suite 200
 Brighton, MI 48116-6561
 phone 810.229.2763 fax

MICHIGAN
190

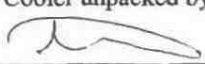

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact ARCADIS of Michigan 28550 Cabot Drive Suite 500 Novi, Michigan 48377 (248)-994-2240 Phone (248)-994-2241 FAX Project Name: Ford LTP On-Site Site: Ford LTP P O # 30042006 0401 02		Client Project Manager: Kris Hinskey Tel/Fax: 248-994-2240 Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS TAT if different from Below: 3 Day <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Regulatory Program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other: Site Contact: Julia McClafferty Lab Contact: Mike DelMonico		Date: Sampler Name: J. Lust COC No.: 1 of 1 COCs			
Sample Identification TRIP BLANK MW-2095-020900		Sample Date: 2-2-20 2-9-20 1/55		Sample Type (C=Comp, G=Grab): G G G		Matrix: W W W		# of Cont.: 1 6 6	
<div style="text-align: center;">  240-126086 Chain of Custody </div>									
Sample Specific Notes: 1 VOA 3 VOA's by 82608B 3 VOA's for 82608 SIM		1,4-Dioxane 82608 SIM PCE 82608 1,1-DCE 82608 Trans-1,2-DCE 82608 cis-1,2-DCE 82608 TCE 82608 Vinyl Chloride 82608 Perform MS/MSD (Y/N) Filtered Sample (Y/N)		<input checked="" type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months		Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3; 5=NaOH; 6= Other 2 2 2 2 2 2 2			
Possible Hazard Identification: Please List any EPA Hazardous Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample <input type="checkbox"/> Non-hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown									
Special Instructions/QC Requirements & Comments: Submit all results through Cadena at jtomalia@cadenaco.com. Cadena #E203728 Level IV Reporting requested									
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Relinquished by: <i>John McClafferty</i>		Custody Seal No.: Company: Arcadis		Received by: <i>ARCADIS</i> Date/Time: 2-4-20 / 150		Relinquished by: <i>John McClafferty</i>		Received by: <i>ETA</i> Date/Time: 2/10/2015	
Relinquished by: <i>John McClafferty</i>		Received in Laboratory by: <i>ETA</i> Date/Time: 2/10/20 146		Received by: <i>ETA</i> Date/Time: 2-11-20 840		Company: <i>ETA</i>		Company: <i>ETA</i>	



Eurofins TestAmerica Canton Sample Receipt Form/Narrative		Login # : <u>126086</u>
Canton Facility		
Client <u>Arcadis</u>	Site Name _____	Cooler unpacked by: 
Cooler Received on <u>2-11-20</u>	Opened on <u>2-11-20</u>	
FedEx: 1 st <input checked="" type="checkbox"/> Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other		
Receipt After-hours: Drop-off Date/Time		Storage Location
TestAmerica Cooler # <u>TA</u>	Foam Box _____	Client Cooler _____
Packing material used: <u>Bubble Wrap</u> Foam Plastic Bag None Other _____		
COOLANT: <u>Wet Ice</u> Blue Ice Dry Ice Water None		
1. Cooler temperature upon receipt		<input type="checkbox"/> See Multiple Cooler Form
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. <u>0.4</u> °C Corrected Cooler Temp. <u>2.1</u> °C		
IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C		
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u>		<input checked="" type="checkbox"/> Yes No
-Were the seals on the outside of the cooler(s) signed & dated?		<input checked="" type="checkbox"/> Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?		Yes <input checked="" type="checkbox"/> No
-Were tamper/custody seals intact and uncompromised?		<input checked="" type="checkbox"/> Yes No NA
3. Shippers' packing slip attached to the cooler(s)?		<input checked="" type="checkbox"/> Yes No
4. Did custody papers accompany the sample(s)?		<input checked="" type="checkbox"/> Yes No
5. Were the custody papers relinquished & signed in the appropriate place?		<input checked="" type="checkbox"/> Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC?		Yes <input checked="" type="checkbox"/> No
7. Did all bottles arrive in good condition (Unbroken)?		<input checked="" type="checkbox"/> Yes No
8. Could all bottle labels be reconciled with the COC?		<input checked="" type="checkbox"/> Yes No
9. Were correct bottle(s) used for the test(s) indicated?		<input checked="" type="checkbox"/> Yes No
10. Sufficient quantity received to perform indicated analyses?		<input checked="" type="checkbox"/> Yes No
11. Are these work share samples?		Yes <input checked="" type="checkbox"/> No
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?		Yes No <input checked="" type="checkbox"/> NA pH Strip Lot# <u>HC995364</u>
13. Were VOAs on the COC?		<input checked="" type="checkbox"/> Yes No
14. Were air bubbles >6 mm in any VOA vials?  Larger than this.		Yes <input checked="" type="checkbox"/> No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____		<input checked="" type="checkbox"/> Yes No
16. Was a LL Hg or Me Hg trip blank present?		Yes <input checked="" type="checkbox"/> No
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other		
Concerning _____		

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES	Samples processed by: <u>Ac</u>
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	
18. SAMPLE CONDITION	
Sample(s) _____ were received after the recommended holding time had expired.	
Sample(s) _____ were received in a broken container.	
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)	
19. SAMPLE PRESERVATION	
Sample(s) _____ were further preserved in the laboratory.	
Time preserved: _____ Preservative(s) added/Lot number(s): _____	
VOA Sample Preservation - Date/Time VOAs Frozen: _____	